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ABSTRACT

RESEARCH ON NONLETHAL METHODS OF POCKET GOPHER (THOMOMYS SPP.) DAMAGE MANAGEMENT. Gary W. Witmer, USDA/APHIS/DWRC, Washington State University, Pullman. Dan Campbell, USDA/APHIS/DWRC Olympia.

Nonlethal methods to reduce gopher damage to conifer seedlings are being tested, including repellents, physicall barriers, and habitat modification. Denatonium benzoate (DB), a bitter compound, was applied to seedlings on Mt. Hood Nat'l Forest (NF) in OR. In the results of preliminary trials with DB, seedling damage and mortality was 44% (controls), 38% (DB tablets placed in roots at planting), and 31% (DB tablet plus DB spray). A problem may be poor systemic uptake by plants undergoing moisture stress. Physical barriers around seedling roots and tops has helped reduce initial seedling damage and mortality at Mt. Hood NF. Losses of control seedlings after 6 months to gophers was 55%, but only 23% to seedlings wrapped in heavier weight plastic mesh tubes, 26% in lighter weight plastic mesh tubes, and 11% in sandpaper tubes. The sandpaper tubed seedlings, however, heavy non-animal mortality (>90%) from constriction or heat build up. Habitat modification by sheep grazing is being tested in southcentral WA for its ability to reduce gopher populations. Sheep are used to reduce vegetation on clearcuts and shelterwood units that competes with conifer seedlings. Gopher densities were high (~9-10 gophers/acre) for exclosures (no grazing) and cattle-grazed areas; whereas densities were considerably lower (~3/acre) on areas intensively grazed by sheep.